

WHAT IS CLAIMED IS:

1. A catheter, comprising:
  - a shaft portion defining a guidewire lumen and an inflation lumen having a longitudinal cut extending radially from an outer surface of the shaft to the guidewire lumen, wherein said inflation lumen is arcuate shaped;
  - a generally tubular reinforcing member having a first wall thickness, and a cross-section of a partial annulus;
  - a curved elongate reinforcing member having a second wall thickness smaller than the first wall thickness, wherein the curved reinforcing member is disposed on the first generally tubular reinforcing member such that the combination of the generally tubular reinforcing member and the curved elongate reinforcing member form the walls of the inflation lumen and an upper surface of the curved reinforcing member forms a portion of the guidewire lumen; and
  - a guide member slidably disposed on the shaft portion for communication with the guidewire lumen via the longitudinal cut.
2. A catheter, comprising:
  - a proximal shaft defining a guidewire lumen and an inflation lumen, wherein said inflation lumen is arcuate shaped;
  - a two part reinforcing member disposed within the inflation lumen; and
  - a distal shaft wherein said distal shaft has a greater flexibility than said proximal shaft.
3. The catheter of claim 2, further comprising:
  - a transition section having a proximal end and a distal end, said proximal end communicating with said proximal shaft and said distal end communicating with said distal shaft.

4. The catheter of claim 3, wherein said two part reinforcing member has a stiffness that is reduced from a proximal end to a distal end said two part reinforcing member extending into said transition section.

5. The catheter of claim 2, wherein an outer surface of the two part reinforcing member forms a portion of the guidewire lumen.

6. The catheter of claim 2, wherein the two part reinforcing member further comprises:

a first reinforcing member having a first wall thickness, a first convex surface, and a first concave surface, forming a partial annulus; and

a second reinforcing member having a second wall thickness, a second convex surface and a second concave surface, wherein the second reinforcing member is mechanically coupled to the first reinforcing member such that the second convex surface is directed toward the first concave surface so that the combination of the first reinforcing member and the second reinforcing member forms a fluidly sealed tube.

7. The catheter of claim 6, wherein the first reinforcing member is metal.

8. The catheter of claim 6, wherein the second reinforcing member is metal.

9. The catheter of claim 6, wherein the first reinforcing member is polymeric.

10. The catheter of claim 6, wherein the second reinforcing member is polymeric.

11. The catheter of claim 6, wherein the first reinforcing member and the second reinforcing member are mechanically coupled by one of adhesive

bonding, lap joint thermal compression bonding, laser welding and ultrasonic welding.

12. The catheter of claim 6, wherein the second wall thickness is smaller than the first wall thickness.

13. The catheter of claim 7, wherein the first reinforcing member is a portion of a hypotube.

14. The catheter of claim 8, wherein the second reinforcing member is a portion of a hypotube.

15. The catheter of claim 7, wherein the first reinforcing member is a curved plate.

16. The catheter of claim 8, wherein the second reinforcing member is a curved plate.

17. The catheter of claim 9, wherein the first reinforcing member is a thermosetting plastic.

18. The catheter of claim 10, wherein the second reinforcing member is a thermosetting plastic.